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VETERINARY SCIENCE.

BEING

AN ADDRESS

TO THE

GENTLEMEN, FARMERS AND GRAZIERS

OF

LONG ISLAND,

SHEWING IN A BRIEF VIEW

THE IMPORTANCE OF INTRODUCING THIS BRANCH

OF

DOMESTIC SCIENCE,

WITH A VIEW OF AMELIORATING THE DISEASES

OF

THAT NOBLE ANIMAL THE

HORSE,

AND

QUADRUPEDS IN GENERAL.



BROOKLYN,

PRINTED BY A. SPOONER,

1846

TO

DR. MITCHELL, M. D. &c. &c. &c.

SIR,

YOUR general character as a physician and a man of science, and the pleasure you appear always to have taken in encouraging every laudable and well meant endeavour of individuals in general, desirous of alleviating the sufferings of the animal creation, whether Man, or quadruped;—I have presumed in the liberty of dedicating to your attention these few sheets, with a view of diffusing more generally the necessity of drawing from obscurity a branch of natural knowledge, which when better known, and more generally understood, must entail many blessings on community at large.

The example of other nations, operating on the good sense of our mother country, having advanced that to the dignity of a science, which before was exercised blindly, and without principles, and rather to the detriment than the advantages of the objects it was intended to serve, may probably serve as a very useful hint to this. It appears to me that the following explanation, in a comprehensive view of all that immediately or collaterally belongs to the Veterinary Art, would be no unacceptable offering to the public.

Having since my last introduction to you, commenced the practice of this branch of science, and knowing the obscurity of its character to people in general in this country, I have not undertaken it without some temerity. Yet on the other hand, its prospects are not without encouragement; the sun of veterinary science, sir, has already dawned on this happy land, and its inestimable beams have already pierced through the thick darkness in which it seemed permanently envelop'd. Its approach, too, has been happily indicated in the labours of an *eminent veterinarian* now established in New-York, who breathing a medical atmosphere, is imbued with principles which eminently qualify him for such a pursuit.

At length the removal of *this spell*, which has hitherto prevented the free exercise of genius, and the operations of useful ex-

periments, seems now to be reserved for men like yourself to encourage, and to whose zeal and public spirit, this country will no doubt stand indebted, for a body of enlightened practitioners, which in a few years may become dispersed throughout *our Union*.

Whatever you may have done, sir, to increase, or promote the public stock of knowledge in other useful departments, it is too lamentable a truth, that this branch of domestic science, called the Veterinary Art, has been totally neglected, and though none may attempt to deny the importance of its claims from the Faculty in General, yet I am confident, from this mark of your personal condescension, you will not only help to raise the *Art from contempt to respectability*, but by patronizing this well meant endeavour, you will induce many medical students of liberal education, to devote their services to its improvement.

During a period of fifteen years individual exertions, I have laboured with much zeal to introduce it so far, and though from private unfortunate circumstances, my future exertions must still remain very limited, still I live in the pleasing hope of seeing it become diffused throughout this country: and in no instance, sir, will your patronage be more happily employed than in the present,—since the *noblest and most valuable Arts*, are those which embrace the widest sphere of Benevolence; *utility to mankind, mercy and relief* to the brute creation.

*I have the honour to be,
Sir,
with respectful esteem,
Your obed't servant,*

J. CARVER.

CARVER'S INFIRMARY,
Oyster Bay, Long Island, May 1816.

CARVER'S
REPOSITORY, FORGE AND HORSE
INFIRMARY.

✓ 14159
MR. CARVER,

*Veterinary Surgeon and Professor of Animal Medicine, from the
Royal Veterinary College of London,*

RESPECTFULLY informs the Gentlemen Farmers and Graziers of Long Island, that having now received his regular degrees, and obtained his *Diploma* from the examining committee of Surgeons and Physicians of that Institution, has returned to this country, with a view of promulgating that Branch of *Natural Knowledge*, wherein the diseases of *Horses*, and *Quadrupeds in general*, will be attended to on *Scientific principles*.

Mr. Carver has established a *Repository, Forge and Veterinary Infirmary* on Cock's Farm at Oyster Bay, where patients will be received and attended to with regular medical care.—*Corns, Thrushes, and Contraction of the feet, Three of the most formidable diseases to which the horse is subject, and which proves the entire destruction of many thousands in this Country, will not only be cured, but prevented from returning, by the application of Professor Coleman's patent Shoes, lately introduced at the college for that purpose.*

Such gentlemen, therefore, as have horses, which from unscientific treatment have been given over by the Common Farrier, and pronounced foundered, with other false and

erroneous condemnations of *Affections of the feet*, would do well to apply to Mr. Carver who will always give his opinion with that candour gentleman may rely on.

Mr. Carver also respectfully informs the public, that having very early in life acquired the *Art of Civil and Military Equitation*, in the first Military Academies on the Continent of Europe, and afterwards held for many years an appointment as *Equerry of Horse*, in India, he will undertake to *Dress Horses for Military Parade*, harness or saddle, on the most approved principles of two of the most celebrated Horsemen the world ever produced, Sir Sidney Meadows and the Earl of Pembroke. Ladies Horses will also be fore shortend and perfectly broke to the side saddle. Good and *well ventilated* Stabling, with the best of pasturage, corn and hay—with many other advantages not obtainable in a city while under medical treatment, on moderate terms.

Mr. Carver having for many years foreseen the want of an Establishment of this Nature, with a view of *obviating* the Jockeyship and Chicanery of men void of principle, to which Gentlemen have so long been subject, in procuring horses *sound and well broken*, has in conjunction with the practice of the veterinary art, established a repository, with a Riding School, and a range of new ventilated Stables on the college plan. (which is now in embryo) but where Gentlemen may at all times apply with confidence, and depend on dealing with a man of *Honor and Integrity*.

A new mode of Castration as now adopted at the Veterinary College by Professor Coleman, also *Ophthalmia* or Inflammation of the *Tunica Conjunctiva* and its consequences which generally terminate in cataract—cured by Surgical Operation, in all its *Incipient Stages*.

Tracheotomy, erroneously called *Bronchotomy*, an operation now performed at the Veterinary College with great success. In cases of Influenza, Catarrh and Roaring (commonly called Broken Wind,) is also performed by Mr. Carver, on scientific principles. This operation has of late years saved the lives of many hundred horses in the armies of Europe.

Such are the leading points of Mr. Carver's establishment, which claims the attention of the public.

The man who knows the danger of what is improper, is always the first to call for advice: and as the Effect of Veterinary Medicine as a science, has been to remove many hurtful and erroneous prejudices in the treatment of disease, and to render Mankind in General more attentive to the subject of health, so it is hoped it may prove equally useful in what regards that part of the *Brute Creation*, and which leads us to a more humane treatment, as well as removing many ill practices which have so long existed among smiths and empirics in the Art, and which call loudly for *reformation and redress*.

N. B. Any reference necessary, will be respectfully attended to, by application to Dr. Cook of Beckman st. or Dr. Clements, Veterinary Surgeon, Partition st. New-York; Dr. Hunt and Mr. Bedell, Brooklyn ferry.

Mr. Carver also intends establishing a Laboratory at Brooklyn Ferry, with an arrangement of ready prepared medicines for the prevalent Diseases of Horses and other Quadrupeds, which will be dispensed retail by all the Venders of Genuine Medicines throughout the union, each article enclosing a regular practical Treatise on the Complaint the medicine is intended to remove.

*Ready prepared Medicines according
compounded from the College
Formulas - by application at
the farm*

ADVERTISEMENT

TO THE
GENTLEMEN, FARMERS AND GRAZIERS
OF
LONG ISLAND.

THE Branch of Science which I have now the honour to profess in this department of Natural Knowledge, being altogether new in this country, and the *Name* by which it is called being but little known, it becomes indispensable, therefore, to communicate for the better information of the public, whatever may be learned on this head.

Farriery is a name which it derived from the occupation of those who practised it—who were in general *Smiths*, or *Workers in Iron*, (*Ferrarius*.) *Veterinary* is a word derived from the Latin—*Veterinarius*, a term appropriated to express either that part of medicine which regards the cure of animals, or the persons who practice that cure. What the true *Etymon* of the word may be, is a question of some philological intricacy, though but of little importance. It is sufficient here to say, that the word *Veterinarius*, as used by Columella and Vegetius, signifies a practitioner in one particular part of medicine, namely that which respects the cure of diseased cattle; and that *Ars Veterinaria* signifies the art of healing applied to the healing of Cattle.

The word *hippiatrick*, is a compound term, formed of the Greek word *Hippos*, a horse; and embrace medicine which treats of the cure of diseased Horses, in particular, and constitutes a principal branch of that division of medicine, which treats of the Diseases incident to cattle in general and to all other domestic animals.

We have undoubted evidence that the art was cultivated in *very early times*. In the infancy of medicine, when the art of healing was confined to the rude elements of Surgery, it was indiscriminately applied to the relief of all accidental

distresses to which the animal frame was liable, whether they occurred in man, or in those animals which constituted his wealth, or were the associates of his labours. In these times, many things occurred to attach the minds of men to the well being of their Cattle.

They were almost solely used for tillage, and the Dairy; and the Life and health of the herds was an especial concern. Cattle was the great medium of exchange, before the invention of Coin. and the Riches of Countries and individuals, were estimated by the quantity of cattle and the Laws of Religion, which religiously forbade the sacrifice of any animal, but such as were in the most perfect state of health.

Chiron the Thessalian, a person whom antiquity held in extreme veneration, and who, from his transcendant skill in Horsemanship, and many other useful arts, was called the wise Centaur, lived at the age of the Trojan war. This great man descends to us as the father of medicine, and the instructor of *Æsculapius* in that art. And he was, on the concurrent testimony of antiquity, profoundly skilled therein, as also in the cure and management of cattle.

It would be to no purpose to trace this art minutely through all its vicissitudes; it is sufficient to say, that the decline of the Roman Empire, and the decay of arts and sciences, occasioned for some time the destruction of *this* as well as every other branch of knowledge. But while Veterinary Medicine was lost in the *West*, and was declining fast in Greece, it found an asylum among the *Arabians*; a nation destined as it should seem by providence, to receive in trust the knowledge of Europe, until emerged from the abject state into which it was plunged, it was able to reassume its intellectual rank. It is worthy of remark, that the Asiatics appear to have preserved that part of the management of Horses which consists in their treatment when Diseased, entirely separate from the business of the farrier; the confusion of which essentially distinct occupations, has been hitherto the bane of veterinary science among us.—During a residence of 15 years among the different nations of the East, I have the satisfaction to say I learnt many useful lessons.

The great Lord Bacon, sensible of the services he had rendered to medicine by Zootomy with a view to comparative anatomy, makes the following observation.

“The diligence of Zootomists, says he, may much contribute to illustrate the doctrine of Androtomy—and both inform physicians of the true use of the parts of the human body, and help to decide divers anatomical controversies,—further it would be no new thing for naturalists not professedly physicians to treat of this subject; the naturalist may afford good hints to the practitioners of physie, by trying upon brutes a variety of untried medicaments or remedies, and by suggesting to him both the events of such trials, and also what has been already observed about the cure of diseases incident to beasts.

“The most skilful physicians might also, without disparagement to their profession, do it an useful piece of service, if they would be pleased to collect and digest all the experiments and practices of farriers, graziers, butchers and the like; which the ancients did not despise, but honoured with the title of *Hippiatrica* and *Veterinaria*; and among which, if I had leisure, divers things may be taken notice of, which might serve to illustrate the *methodus medendi*.”

These are a few of the sentiments of ingenious men, selected of many; but they are sufficient to prove, that from the period at which veterinary medicine first attracted the notice of the Learned, it grew more and more an object of their attention.

I shall now follow the progress of this opinion no farther, but observe, that after a course of many years, the government of France undertook to give effectual assistance and protection to this most useful part of Domestic Science, and to provide for it the same advantages by which medicine had formerly advanced.

It will not be out of place to give here some account of the means which the French Government employed, in order to bring about the desirable end; and which so justly entitles France to the same honours with respect to the Veteri-

nary Art, which the world must ever concede to the school of Salerno, with respect to medicine.

Sensible of the advantages which must result from such an institution, Government granted a sum of 50,000 livres to defray the expences—providing a Laboratory, dispensary, physic, guarding-stables to serve as hospitals, forges, instruments, and utensils; also rooms for study and dissection; in a word, every thing that might render the Establishment complete.

The first school was opened in January 1762. It was very soon filled with native Students, and in a short time, their numbers were increased by foreigners—supported by the Empress Queen, the Kings of Denmark, Sweden, Poland, Prussia and Sardinia, and the different Swiss Cantons.

It remains for me now to give the reader, unconnected with the College, some account of myself, and the zeal and ardour with which I have for upwards of 44 years laboured to introduce and promulgate the Veterinary Art in this country.

In the year 1802 I arrived from India, and in the fall of the same year, paid a visit to the late deceased Dr. Ramsay, of Charleston, who observing my predilection to promote the introduction of this useful and necessary branch of Science in this Country, he opened with Dr. Rush, of Philadelphia, a correspondence on that subject. In January following, I left Charleston and travelled northwards, where I was absent till 1807, when I arrived in Philadelphia, during which period I had heard nothing from Dr. Ramsay. In the interim of which time, several memoirs were addressed to different Societies, as well as to different Individuals—Mr. Livingston, the Patroon of Albany, General Moreau, and Washington Custis, of the Arlington Institution, were among the number—none of which were ever answered, except by the last mentioned gentleman. On my arrival in Philadelphia in 1807, I waited on Dr. Rush, who received me with much politeness, acknowledging the correspondence which Dr. Ramsay had opened with him on the subject.—Dr. Rush,

whose heart was ever warm for the introduction of any new branch of science, which might tend to promote the welfare of the Animal Creation, conversed much with me on veterinary subjects, and laboured hard to prevail on me to establish that pursuit in that city—but not having then obtained it scientifically. I proposed to Dr. Rush that I should address a memoir to the Agricultural Society of Pennsylvania; and they having some short time prior to this offered a medal from their society to any Gentleman who would point out to them the best mode of introducing the Veterinary Art into that state—a memoir was accordingly addressed to that body, offering myself a candidate to be sent to the Veterinary College of London, to be there scientifically educated, with a view of returning to practice in Philadelphia. The Body of that Society was composed at that time of nearly, if not upwards of 200 members—but whether from their poverty or their meanness, I could by no exertions in my power, rouse their patriotism sufficiently to induce them to subscribe even the paltry sum of three cents a day, for my education at the college,

This mark of *their solicitude* to promote the good of their state, was the cause of this subject laying dead until the year 1812, when it was again renewed by the exertions of Dr. Rush, by whose application to Government in behalf of the Agricultural Society, a small sum was raised sufficient to enable me to reach the college,—where, by my own individual exertions, and by application to Wm. Allen and John Capper, Esqrs. of the Society of Friends, together with a small sum subscribed by Messrs. Morrison & Wurts, of Philadelphia, the object was finally accomplished.—In December 1815, I returned to Philadelphia, and laid before the Agricultural Society my certificates and diploma as being duly qualified to fulfil the mission on which they sent me, and sorry I am to add, that after the zeal, and sacrifices made during a period of near fifteen years to accomplish this desired object, I was finally under the necessity of giving them my *congee* as a reward, and seek my fortune elsewhere.

I accordingly proceeded to New-York, and my friend and colleague Mr J. Clements informing me of a Gentleman on Long Island, who had been *long desirous* of introducing this most useful and necessary branch of Domestic Science, I requested an introduction, from which on being granted, the present Establishment has arisen. Thus the *truly* spirited exertion of a single individual, *truly desirous* of rendering a benefit to his neighbours and his country, may probably do more good than a Society.

I am well aware, that these outlines will not escape the eye of observation and perhaps criticism; and when such criticism shall be well founded, I shall receive its corrections with thankfulness.

But when it shall appear to be only a morose, or common-placed censure, I shall observe silence, and treat it with profound contempt.

I have long foreseen the innumerable difficulties which accumulate before me; I feel myself, however, sufficiently bold to encounter them, and although the task which my present situation imposes on me is great, no exertion on my part shall be wanting, to exert every ability to fulfil it; and if the public, which now honours me with its confidence, shall continue to encourage this well meant endeavour to alleviate the sufferings of the Brute Creation, I shall also make every exertion to correspond with their candour, by rendering myself useful in my station.

JAMES CARVER.

COMPARATIVE ANATOMY.

BEING A BRIEF OUTLINE

BY

COMPARISON, OF THE TWO SYSTEMS

OF

MAN AND HORSE.

1st. When the Almighty created Man, he made a summary of the world's fabric, an abstract of Divine nature: In him he ended his work: on him he stamp'd his seal, and sign of his power, and portrait of himself. In these are the three principles of Divine essence; in which essence these three principles are united. Theologians call them by the Trinity; the Naturalist, Matter, Spirit, and Motion; the Chymist, Salt, Sulphur, and Mercury; the Anatomist, Body, Blood and Spirit; the Botanist, Substance, Fragrance and Sap. But the philosopher comprehends them all, and searches out the *Triune*, this first great cause, from the *Animal, Vegetable and Mineral Kingdoms*; and with his intellectual faculties soars into ætherial regions, and exclaims with David: "*I am fearfully and wonderfully made! Whither can I go from thy Spirit!*" Ps. cxxxix. 7, 14. In fine, Man is a living and walking machine, containing within itself the principle of its motion and preservation, not only for a few years, but sometimes for more than a century. Nothing, says an intelligent Physiologist, is a stronger evidence of the dignity of man, and of his pre-eminence over the different species of the Brutes, than the erect position of his body, and the majesty imprinted upon his countenance. The same ignorant reasoners have attempted to assert, that the upright posture of man is not natural to us; but the conformation of the head and foot, as well as several other parts of the human body, clearly prove, that those who thus argue are wrong. Other animals have their eyes placed on each side of the head, so that they can see the horizon:

but man, were it not for his erect position, would fare far worse with respect to sight, than any of the Brute Creation. His eyes would be turned directly towards the ground : and he would not be able to shun a thousand dangers which other animals avoid by flight, when their sight apprizes them of their approach. If, therefore, any thing evinces, that nature destined man to walk with his head erect, it is the very conformation of his head. In his upright attitude, he takes in at one view the heavens and the earth : He can look upwards, and downwards, all around him : and so far from having occasion to envy the posture of the creatures around him, he may justly consider his own as a favor conferred upon him by Nature.

2d. The Horse is a generous and serviceable creature ; possessing the courage of the lion, the fleetness of the deer, the strength of the ox, and the docility of the spaniel. By his aid men become more acquainted with each other ; he not only bears us through foreign climes, but likewise labors in the cultivation of our soil ; draws our burdens and ourselves ; carries us for our amusement and our exercise ; and both in sports of the field and the turf, exerts himself with an emulation that evinces how eager and ambitious he is to please and gratify the desires of his master. He is both our slave and our guardian ; he gives profit to the poor, pleasure to the rich ; in our health he forwards our concerns, and in our sickness lends a willing assistance for our recovery.

This fine spirited animal participates with man in the toils of a campaign, and the glory of conquest, penetrating and undaunted as his master, and views dangers only to brave them. In exercise of all kinds, his fire and his courage is irresistible, and amidst his boldest exertions, he is equally collected and tractable ; not obeying his own impetuosity, all his efforts and his actions are guided solely by his rider ; indeed such is the greatness of his obedience, that he appears to consult nothing but how he can please, and if possible anticipates what his master wishes. Every impression he receives, has a responsive and compleat obedience : he darts

forward, checks his ardour, and stops at command; and the pleasures attendant on his own exertions, he renews, or rather centers them in the pleasures and satisfaction of man; nay, he serves him with all his strength—and in his strenuous endeavours to please, he often outdoes himself, and even *dies in order the better to obey!* In a word, nature has bestowed upon him a disposition, both of love and fear, to the human race; she has endowed him also with that perception, which yields him the knowledge of every service we can, and ought in gratitude to render him.

Such indeed are the acute and generous feelings of this noble animal, that he is less affected with his bondage, than with the want of our protection; pleased in the constant labour of our health, pleasure, and profit, he feels no distress *but what is caused by our own cruelty and ingratitude.* All he demands from us therefore, for a life of incessant labour, is a support and tender return: the attainment of which, creates in him his chief pleasure. If such, therefore, be the qualities of this noble creature, surely he who has devoted his life to the study of his infirmities, has some claim to the patronage and protection of his country.

Having described the qualifications of this noble animal, I shall now proceed to give a brief detail of the difference of structure between him and man.

1st. In the formation of the brain: its structure is entirely different, being reversed; the cerebellum of the horse holds the situation of the cerebrum in *man*. Its proportions are also very different—the size of the brain in the *Horse*, being only in the proportion of one fourth of that in *Man*. The structure of the lungs of the horse, are also very different; the pulmonary veins being double in number to that in *man*. This of course allows an easier transmission of blood from the lungs of the *Horse*, and consequently occasions the animal to have its circulation less hurried there, where speed is so often required. The pulse of the Horse is also different, being generally at a range of from 35 to 46, though from 40 to 45 is the general medium; while in *man*, it is generally about 75, seldom under 60. In the

Horse, the Arteries seldom take any disease, which is generally so frequent and so fatal in *man*. With respect to the Blood of the horse, it has less serum than in *man*; because the *horse* is less subject to dropsical complaints.

But with respect to the nervous system, its proportion between the two animals is in favor of *ourselves*; the nerves being of course more numerous, in order to answer all those finer feelings, as well as all those various sympathies so predominant in the human frame; whilst the *Horse*, by nature limited in his situation and pursuits, possesses a lesser proportion, therefore wants that acuteness and sensibility, which is so peculiarly connected with that intelligence and understanding ordained him by the Almighty. When we come to the basis of the structure of both these animals, we find that at birth the bones of the *Horse* are more complete than in *man*, and that the process of ossification has made a more rapid progress in the *womb*; the spine of the *horse*, by its greater compactness and strength, being more fitted for support and strength, than in *man*. The Vertebrae, or bones of the back, are also proportionably firmer and better united.

From the *Basis* of the *Body*, we come next to the organs. The stomach of the horse being much less than in *man*, displays also less sensibility; the cuticular part to which the Bott is principally attached being quite insensible, and does not retain so long as *man* the food that is received into it. This organ contains only three gallons of water. When it is a well known fact, from experiments tried in 1814 during my residence at the college, that a horse, from long deprivation, will drink 5 and 6 times that quantity.

The changes also, which affect the assimilation, and complete the process of *Digestion*, are chiefly made by intestines, different from *man*, and for this purpose a peculiar provision is made by nature, that the alimentary matter may not be hurried too quickly through the intestines; for in the horse there is no *Gall Bladder*, consequently the bile has not that acrimony, or powerful stimulus, or action, on the intestines, as in *man*. Neither is there that necessity for hurrying the

alimentary matter from the body of the horse, as in man, from its having less disposition, in consequence of the food of the animal, to putrescency—*Man* being *carnivorous*, the *Horse* *graminivorous*. Connected with the same cause, is the formation of the *Liver*, which is more simple in the horse, being divided into seven small lobes—that of man only into two—the horse being an animal destined for speed; *man* not. It is also secured by ligaments: one from the diaphragm; a second, or a portion of the same, from the breast bone, by which means it can neither fall downwards, nor sideways; and the umbilical vein, by which the *fetus* is nourished, becomes its suspensory, or third ligament; so that it can neither push forward in galloping, or going down hill, nor press too hard on the soft parts that lie under it.—It possesses however no less than from *forty* to *fifty* hepatic veins, while there are few in man. It is also more free from disease than that of *man*, or of any other animal, and the simplicity of its structure, may perhaps be considered as the cause of this.

The sense of vision in the horse is particularly powerful. He sees better at night than most other animals, and sees stronger on each side than straight forward. He has no lachrymal duct nor eye brow; *man* has both. As quadrupeds have no hands to defend these organs, or remove extraneous bodies from the eye, Nature has provided for them a seventh muscle, which is denied to *man*, and by which means the eye is drawn into the socket at the approach of danger. It is a firm cartilaginous membrane, situated in the inner canthus of the eye—in health hid by the eyelid, except a very small portion, which is black at the edge; but when labouring under inflammation, it projects very much forward, from the action of the retractor muscle drawing the eye backward to avoid the superfluous rays of light. Thus in Tetanus, or lock jaw, when all the other muscles are in a most violent state of contraction, this membrane, which the *Farriers* call the *Hare*, is drawn over the eye, by the action of the retractor oculi. *This membrane, which nature has provided for the wisest purposes, is often*

cut out by common farriers, which ignorant and barbarous practice, cannot be too much reprobated.

The Carunculae Lachrymales also in the horse is black, while that in man is red. This has a kind of fold of the Conjunctiva—though not entirely covered, as in man. Its principal use is to direct the superfluous moisture, secreted by the lachrymal duct, to the puncta lachrymalia, from whence it is carried into the former, and so passes into the nose by the *ductus ad nasum*; which in the horse is very long and membranous, but in man short and bony. The Tapetum, or the inner covering of the choroid coat, is half black, and half green, the better to absorb the superfluous rays of light, and also to assist and enable them to collect those rays corresponding to their food while grazing. In man those variegated expansions are wanting.

His hearing is equally powerful, and his ears are covered by strong muscles, which direct their position to the object present. This is not observable in man. In the circulation from the heart of the horse to the head, there is also a marked difference; the supply not being exclusively dependant on the carotids, for their arteries can be tied up in the horse without danger, whereas the tying up of one of these in *man*, frequently proves fatal. This operation has been performed in several instances with success, in staggers and other diseases to which that animal is subject.

The heart also is formed in some with two, in others three, but in all the more perfect quadrupeds, with four cavities, forming a complete double circulation; but the distribution of those vessels producing this, varies in different subjects. In man, the aorta gives off, soon after its origin, the right subclavian, left subclavian and left carotid arteries, the right carotid being furnished from the right subclavian, so that, properly speaking, there is no ascending aorta as in the human: besides there are only four pulmonary veins in man, in the horse there are double that number. In the sexual organs, the structure of the uterus, or womb, is peculiar in having horns, and the testicles in the male show a secretory disposition in twelve months—now after the Testes of the hu-

man subject, have passed the abdominal ring, a complete union takes place between the vaginal or outer reflection of the peritonium, by which means all communication with the scrotum and abdomen is shut out: this is a wise and kind provision to man; for, from his erect position, was it not so, there would be a continual descent of some of the intestines. Man is also subject to *hernia congenita* but animals not being subject to this, have not this opening closed; therefore in a horse, a communication between the scrotum and abdomen remains; but from his prone situation, either congenital, nor serotal hernia are but rarely met with. In the disposition of the horse, there are many that never lie down, but sleep in an erect posture; and contrary to what is the case with most other animals, the horse does not lie down after eating. In five years the horse attains his full growth, which in man, on the contrary, requires a period of twenty-one years, shewing less active powers of the system, and a more complicated machine to compleat.

But what will enable every one to form a proper judgment betwixt the constitution of the horse and that of man, is the different effects of the same medicines in both. Thus arsenic has been given to a horse in the quantity of two drachms, while one eighth of a grain is the proper dose which is thought safe to begin with in the human subject. *Tartar Emetic*, a medicine equally active, has been given to the horse without any violent operation, to the extent of *three ounces* daily: in man, a single grain is often too large a dose. Blue Vitriol also has been given in the same manner, to four drachms a day; verdigris in the same extent. Corrosive sublimate has been exhibited in an equal quantity; and with respect to different narcotics, as *Hemlock*, *Henbane*, *nightshade*, &c. &c. have also been given, under my own inspection, when in charge of the Hospital stables at the Royal Veterinary College, to a great extent to condemned horses, without producing any sensible effect.

On this I might enlarge; but I hope sufficient has been said, to show what is due to the improvements in this department of *Anatomy*, as well as *Medicine*, and to none am

I more indebted than to my worthy instructors Professor Coleman and Wm. Sewell, Esq. (Assistant Professor,) for their correct anatomical views of various parts of the animal ; for their tracing the causes of many diseases as well as the difference of structure in both, to their source, on which the most erroneous ideas have been entertained ; and for explaining their opinions by a proper analogy between the maladies of the animal and man ; thus rendering their explanation easier and better understood.

J. CARVER.

N. B. The public are respectfully informed that William Carver, (*Farrier*, of Reid st. New-York,) having presumptuously *assumed* the title of Veterinary Surgeon, he deems it a duty to the public to say, that the said William Carver has never attended a course of studies either at the College, or at any school of anatomy, either human or quadruped.

Regular lists of all the gentlemen who have studied at the College and passed the Examining Committee are published yearly. Those lists may be seen at any time by any gentlemen desirous of seeing them, by application to Mr. J. CLEMENTS, Veterinary Surgeon, Partition-Street, New-York.

THE LONDON
ROYAL VETERINARY COLLEGE.
AT ST. PANCRAS.

THE ROYAL VETERINARY COLLEGE, is an institution first established in the year 1792, at St. Pancras near London. The public are indebted for this truly national foundation, to the discernment and patriotic exertions of the Agricultural Society of Oldham, in Hampshire. The first professor was Mr. St. Bell, a Frenchman, who had previously signalized himself in this country as a veterinary anatomist, by dissecting the famous horse Eclipse. The college is supported by an annual subscription. The annual contribution is two guineas, but the payment of 20 guineas at once, constitutes a subscriber for life. In some recent instances, the institution has shared the bounty of Parliament; an immense saving resulted to the nation from the appointment of Veterinary Surgeons to the different regiments of British cavalry.

The views and objects of the College, appear in the following statement printed by the authority of the Governors. The grand object, they observe, is the improvement of veterinary knowledge, in order to remedy the ignorance and incompetency of *Farriers*, so long and universally complained of. For this end, a range of stables, a forge, a theatre for dissections and lectures, with other buildings, have been erected; a gentleman of superior abilities has been appointed professor, with other requisite officers. The anatomical structure of quadrupeds, as Horses, Cattle, Sheep, and Dogs, &c. the diseases to which they are subject, and the remedies proper to be applied, are to be investigated and regularly taught; by which means enlightened practitioners of liberal education, whose whole study has been devoted to the veterinary art in all its branches, may be gradually dispersed over the kingdom, on whose skill and experience confidence may securely be placed.

Pupils to the college, in addition to the Lectures and instructions of the professors, and the practice of the Stables, at present enjoy (from the liberality of some of the most eminent of the Faculty) the advantages of free admission to their medical and anatomical lectures. These pupils previous to leaving the college, are *strictly examined* by a *medical committee*, from whom they receive a *proper certificate*; and upwards of 500 have been examined and approved, have left the College, and are at this time practising in the different Regiments of Cavalry, and various parts of the country with great success.

Subscribers have the privilege of sending their diseased animals to the college, without further expence than that of daily food, and these in general form a sufficient number of patients for the practice of the professor and pupils. On fixed days the professor prescribes for the animals belonging to the subscribers, who find it inconvenient to send them from home, *provided the necessary medicines be furnished and compounded at the College*. Subscribers horses are also there shod at the ordinary prices. His Royal Highness the Commander in Chief having been pleased to appoint a Board of General Officers, to take into consideration the objects of this institution, and they have reported the continental loss to be very heavy, from the total ignorance of those who hitherto had the veterinary department in the army. This report his Majesty approved, and henceforward to qualify for the military service, a veterinary surgeon must be provided with a regular *diploma* from the college.—A number of gentlemen, subscribers to the institution, attend once a fortnight to inspect the discipline of the stables, and see that the regulations are duly complied with.

The Patrons of the Royal Veterinary College are as follows :

His Royal Highness the Prince Regent, *President*.

His Grace the Duke of Northumberland, K. G. F. R. S. F. A. S.

VICE-PRESIDENTS.

Lord Percy,

George, Earl of Morton, F. R. S. F. A. S.

George, Earl of Pembroke,
 Philip, Earl of Chesterfield, F. R. S.
 George, Earl of Macclesfield,
 His Royal Highness the Duke of Kent,
 George, Earl of Warwick,
 Sir T. C. Bunbury, Bart. M. P.
 George Home Sumner, Esq. M. P.
 Thomas Pell, Esq. F. A. S.
 Granville Penn, Esq. F. A. S.

NOTE.—This last mentioned gentleman is of the Penn family of Pennsylvania, and is now living in England. He was the *friend and patron* of Mr. Charles Vial De St. Bell, the first Professor of Veterinary College; a great promoter of Veterinary Science, and the gentleman who laid the foundation stone of that Institution.

The following gentlemen originally constituted the Committee of Examiners, for the purpose of granting *diplomas* to the pupils of the college, when sufficiently qualified to engage in practice,

	Dr. John Hunter,
Mr. Cline,	Mr. Houlston,
Mr. A. Cooper,	Dr. Baillie,
Dr. G. Fordyce,	Dr. Babbington,
Mr. Home,	Mr. Abernethy.

The present *Examining Committee* are

Henry Cline, Esq. F. R. S. President.	A. P. Cooper, Esq. F. R. S.
Dr. Babbington, F. R. S.	Dr. Cook,
Dr. Baillie, F. R. S.	Dr. Pearson,
Sir Everard Home, F. R. S.	Dr. Wilson, F. R. S.
J. Abernethy, Esq. F. R. S.	A. Cline, Esq.

Edw'd Coleman, Professor, Wm. Sewell, Esq. Ass't Profes'r,
 Treasurer and Secretary.

Among the improvements of these latter times, the extension of a regularly cultivated system of Veterinary Practice, and the attempts to rescue the superior class of domestic animals from the torturing hand of presumptuous ignorance, are not the least considerable, either in the view of humanity or life.

It is true, that during the various ages which have passed since the days of *Columella*, the number of writers treating on veterinary science, according to the best medical light which their times afforded, has been considerable ; but these works had never any very extensive circulation. Competent practitioners were wanting to put their precepts in force ; and diseased animals were either totally neglected, or confided to the unmeaning and capricious efforts of the illiterate vulgar.—Entirely to wipe away this opprobrium on humanity and common sense, must infinitely redound to the credit of the present times ; and it is consoling to be able to announce, that attempts are daily making towards that beneficent end, by considerate and philanthropic characters in various parts of our own and neighbouring country.

Ancient prescription and a *false pride*, among the *medical faculty*, compose the twofold cause which has hitherto deprived our Domestic Animals of the benefits and comforts of regular assistance. Cattle have always been *doctored* in every country, either by their attendants or by men pretty nearly on a level with those in point of education, who, on the strength of having learned to perform the most simple and common operation, and from the want of able proficient, have undertaken the arduous task of prescribing medicine. We need not wonder that in former times such professors were held duly qualified, since men *impartially* committed their own persons to the hands of ignorant barber *Surgeons*, and since so many absurdities of equal magnitude subsisted, which like *Spectres and Ghosts*, have vanished at the approach of modern light ; but it may well be thought surprizing, in this discerning age, when a liberal education is universally acknowledged to be absolutely necessary to the acquisition of Medical Science, that an illiterate Farrier should be trusted in the cure of diseases. Precisely the same studies, *physiological, anatomical and medical*, are requisite for the veterinarian as the human practitioner. The animal economy in its manifold relations, is generally *fundamentally* the same in men and beasts, and governed by the same laws ; the same *materia medica* is in a great de-

gree applicable to both ; but the greatest skill is requisite, to form a judgment of the symptoms of diseases in Brutes, from their inability to describe their own feelings, and the consequent uncertainty of their pathology.

Can there be a greater burlesque than the supposition of a man's ability to prescribe physic for a horse, merely because he knows how to groom and shoe him ? or might we not also, with equal reason, employ our own shoemaker to take measure of our health ? The plea of experience is futile, from the utter inability (*prima facie*) of illiterate and uninformed men to investigate the principles of science, and their total want of opportunity to acquire by rote, a rational system of practice. The whole stock of medical knowledge of these practitioners, usually consists in a *certain number of receipts*, derived from their masters or fathers, and with which they continually ring the changes in all cases right or wrong ; and so fiercely are they bigoted to their own peculiar nostrums, that they are totally incapable of all advice or improvement—the common and unavoidable fate of confirmed ignorance, since it is the highest point of knowledge, *to know that we still need information*. They sometimes cure by luck, seldom from knowledge, but often *kill* by regularly adapted process.—How often has the miserable patient's shoulder been pegg'd, and blown, and bored, by way of punishment, for the folly of getting himself strained in the back sinews of the leg, or coffin joint ! How many pleuretic horses have been killed outright by ardent spicy drenches, which probably might have cured the colic ! How many have been rendered incurably lame, from the patent shoe being affixed to the wrong foot !—Let not the reader suppose these to be mere flourishes, applied to the generality of farriers within my knowledge. I aver them, on the experience of many years, to be literal truths ; and by the tenor of them, he may judge of the majority of that faculty throughout Europe. Into such hands do we commit our distempered animals, which have it not in their power to reproach us with their accumulated sufferings ; mankind from prejudice, indolence.

or want of feeling, neglecting those creatures which they can purchase with their money.

It has been supposed that veterinary writers have been wanting. It was many years ago discovered in France, that the best remedy for this defect, and the only adequate method for the general diffusion of Veterinary knowledge, and the rearing of a sufficient number of persons properly qualified in that line, would be to erect public seminaries expressly dedicated to the purpose.

We of this country came (late indeed) into the same salutary measures; and a Veterinary College, as a hospital for cattle, has been established in London, and others, in various parts of the kingdom. The propriety of these steps, and the benefits derived from them, must be obvious in the extension of veterinary knowledge and the increase of practitioners.

Public Institutions, provided they are not unduly favoured with exclusive privileges, or armed with coercive and restrictive powers, are ever most efficacious and contributory to the advancement of science. The scattered rays of knowledge are, by joint and public means, best collected into a common focus or centre, whence they are with more ease and expedition, diffused and circulated throughout the whole body of the commonwealth. The *Veterinary College* has also adopted a very judicious method of disseminating the true principles of shoeing, by *erecting forges* in different quarters of the metropolis, where all persons may at any time have their horses shod, at the common price charged to subscribers.—Prejudice, I know, on more important occasions, has often been trumped forth as not only harmless, but beneficial among men; which indeed would be just were there any general utility in the continuance of ancient abuses. It is the grand business of philosophy, to provide a counterblast for these interested or ignorant trumpeters.

It has already been asked, for the advocates of our shoeing and sow gelding Doctors, how they came to suppose, that less medical knowledge would suffice to prescribe for the Brute, than for the human animal, who can orally depict his

own feelings, and verbally assist the physician in forming a correct judgment of his disease. They seem to act upon the strange supposition, that it is much easier for an illiterate man to penetrate at once, as it were by INTUITION into the *arcana* of the Sciences, than for a learned or well informed man to render himself skilful in the nature and management of Horses.—Can a man be the worse farrier for having learned the necessity of making constant observations of his own, instead of acting by *rote*, and being guided by a few arbitrary receipts, for knowing the *Nature* of the *medicines* he prescribes, the anatomy and animal functions of the horse, and for making all such knowledge his study?

In fine, all at this moment appears obscured or bewildered, by the ill placed confidence of the owners of Cattle upon the Blacksmith of the Parish; upon illiterate and conceited grooms, stupid and listless shepherds; or upon a set of men infinitely more dangerous than all the rest, who, arrogating to themselves the style of doctors, ride about from town to town, and from village to village, distributing their nostrums, compounded of the refuse and vapid scraps of druggists' shops, to the destruction of thousands, whose varied Disorders they treat alike, neither consulting nature or art for the cause or the effect. *Miserable animal!*—bereft of speech, thou canst not complain, when to the disease with which thou art afflicted, excruciating torments are superadded by the ignorant efforts of such men, who, at first sight, and without any investigation to lead them to the source of thy disorder, pronounce a hackneyed, common-placed opinion on thy case, and then proceed with all expedition, to open thy veins, lacerate thy flesh, cauterize thy sinews, and drench thy stomach with drugs, adverse in general to the cure they engage to perform.

Opposed to this barbarous and noxious practice, let us turn our eye to that of the Veterinary Physician and Surgeon.

We shall not find him occupying the attention of his auditors with the accounts of miraculous cures he never performed;—or, under the mask of sullen arrogance, endeavouring

to attract confidence : we shall not see him armed at all points with phleemes, rowelling knives, and cauterizing irons, to rack and torment his suffering patients ; or with drenches or balls, to obstruct the efforts of nature.—We shall see him with a cautious eye and tender hand, surveying and examining, with discretion and judgment, into the case before him ; and as far as he can attain information from those who bring the animal to him, we shall find him an anxious and patient enquirer ; proceeding to explore all the external signs, and to observe with great minuteness every symptom which presents itself ; and if he finds them so complicated that he cannot with certainty proceed to give an opinion, he will wait till some new, or more distinct appearances come to his assistance. If, however, these signs should not show themselves, to give effect, he will then apply to the only resource left him, that of compelling nature to develope herself, or, at least, to show some indications. This he accomplishes through the means of medical aid, administered in proper quantities, which, by increasing more or less sensibly, the disease, produces some discovery of its tendency.

Now that witches and ghosts of all kinds are flitting apace off the scenes, it is full time for men to lay aside the expectation of all other uncaused effects. On these topics a celebrated Veterinary writer dwells, with peculiar force of illustration, as he says “from a motive of justice, on account of the irrational prejudice of too many persons concerning the Veterinary College.”

“ Enjoying a public institution in the metropolis,” says he, “ where Veterinary Science in all its branches is regularly taught and practised, it remains for those who interest themselves in the safety and well being of our domestic animals, to devise and recommend the most proper and expeditious methods, of a general diffusion of these benefits throughout the country. The Farriers of London were advised by persons of influence, to allow their sons and apprentices to attend the College Lectures which are given, and which indeed is practiced by several of good repute. Those gentlemen of the medical profession attending the London Hospi-

tals, whose destination is for country practice, will surely perceive great probable advantage in the acquisition of veterinary knowledge, even if they have no present intention to profess that branch of medicine. Business, as is sometimes the case, with young practitioners, may run short at the outset, and the leisure time might be both honourably and profitably employed in veterinary practice. Such meritorious and humane occupation, could not possibly injure the medical character of a medical gentleman in these enlightened times; on the contrary, it would be more probable to procure him connections of the most valuable sort—and might be his passport and introduction to the families of medical men.”

Thus far we have stated the opinions of a writer truly ingenious, and most deservedly popular. Just, however, as are the encomiums of this useful institution at an *early period of its existence*, yet we are bound more especially to acknowledge the extraordinary progress which this institution afterwards made (and is now making) under its present enlightened and truly ingenious professor Mr. Coleman. This gentleman, to a natural taste for these investigations, united a profound knowledge of his profession, as an anatomist and surgeon—a foundation on which the Veterinary Science could not but be erected with singular advantage. That this has actually been the case, our readers must be aware that from the report of 1814, published in London, brought over by Mr. Carver, that not less than 600 students have passed at this institution, who are now attached to the different Regiments of British Cavalry, and also practising in various parts of the united kingdoms; besides the different articles in which Mr. Coleman's name and writings have necessarily been brought forward; for which reason we close the present article without entering on those particulars, which it would otherwise have been our indispensable duty to have stated.

THE CHARACTER
OF A
VETERINARY SURGEON,

IN a limited sense, is one who practices the operative part of the Veterinary Art, and whose views do not extend to the treatment of constitutional maladies in brute animals.

The veterinary practitioners in general are named Veterinary Surgeons—and this designation also attaches to those who engage in all the branches of the profession, as they are required in the different Regiments of Cavalry. We shall devote this article particularly to the consideration of those qualifications which every man engaged in it ought to possess, in an equal degree with those whose conduct and operation are exercised on the human body.

There is undoubtedly no profession in which greater natural qualifications are required than our own. The more liberal nature has been in her gifts, the more carefully the first impressions have been cultivated by rational education—by so much the better will a man be fitted for the practice of it. *Youth, firmness, dexterity, acute sensation, sound judgment and humanity*, are the qualifications which may be considered as necessary for a surgeon, whether his patient be a *man* or a *quadruped*.

1st. We will begin by observing—that in youth strong impressions are made on the mind, and that he who begins to study on the brute as well as the human subject, from the earliest period of life, will be most likely to acquire reputation. 2d. Firmness, is the second qualification of a Veterinary Surgeon, and is indeed extended to the mind as well as the body. It implies resolution to go through his operations, however hazardous or severe, undisturbed by any external or accidental circumstances—unmoved or unawed by the presence of spectators. It also implies presence of mind to determine how to act under all circumstances.

Dexterity, in using his instruments, is also a necessary qualification in a Veterinary Surgeon. It enables him to finish an operation with all convenient dispatch, and with the least pain to the patient, whether brute or human.

Acute sensation is extremely necessary also for a Veterinary Surgeon; for how often do instances occur in the acute diseases of the horse, where the nicest delicacy of the touch is necessary to distinguish the true state of the pulse.

Sound Judgment is, on many accounts of the utmost importance to the Veterinarian. It enables him to form judicious prognostics, by which he may calculate the chances for or against the event of any operation proposed. It is often not less useful in deciding for the patient's possible advantage, than in preserving his own reputation, and keeping up the credit of his art.

It also teaches him to determine with precision the time necessary for performing an operation, leads him to the choice of the best methods of executing it, or perhaps furnishes him with the *more laudable and happy contrivance* of recovery of his patient by more gentle means.

Humanity, is the last qualification mentioned as necessary for a Veterinary Surgeon; and though last, not the least important and laudable.

This indeed is the cardinal qualification of all; it reflects a lustre on the rest, and compleats the true character of the man, as well as of the Surgeon. The exercise of it is required in two ways; first, humanity in operation, and secondly, tenderness in our subsequent treatment. Humanity in operating, should induce us to put an end to our patient's sufferings, (whether brute or human,) as soon as we can, and also to perform this severe though necessary task after such a manner as shall be attended with the least possible degree of pain, besides the pleasing satisfaction resulting to ourselves, of having done our duty when actuated by such motives.

Tenderness in our behaviour for the *Brute Creation*, needs not an argument to enforce its necessity—it being no less honourable to feel for them than ourselves; and surely the

distresses of brute creatures, and the pain we are often obliged to inflict upon them, is sufficient to soften the hardest heart, and to raise the emotions of compassion within us towards those *mute sufferers* who have toiled in our fields, and lent the labouring hand to help build our *cities* and our churches.

When dressings are either removed or applied, it should be done with a gentle hand, and in a manner which would convince the bystander that it is not the veterinary surgeon's intention to give pain, even to the most inferior animal if he can avoid it; while a contrary conduct to this may ever prove an obstacle to his success in life; for cruelty will increase by habit, and at length render his manners coarse and offensive, even to those on whose liberality the emoluments of his future practice may in a great measure depend.

We shall now come to consider the *acquired knowledge* necessary to make a good veterinary surgeon. On this point we shall make one general observation—to wit, that the more extensive and universal a man's knowledge may be, from having made these his pursuits and acquirements in various quarters of the globe. (and which the writer has had every opportunity of obtaining from early life,) the better fitted will he be for the exercise of his profession. But, not to alarm young persons by considering the subject too extensively, or by a vain display of science, it is necessary here to mention that knowledge which it is absolutely necessary they should acquire. If they are as conversant as they ought to be, in the matter proposed to their industry and application in this work, the knowledge they will then have obtained cannot but raise a spirit of enquiry in their minds, which will lead to more important exertions.

The next and most important acquisition, is a knowledge of the *power and properties of Medicines*. The various substances of the *materia medica*—the different classes of the *vegetable, mineral and animal* kingdoms, so far as they relate to physic, supply all the several applications used in *Veterinary Surgery*. If therefore we are ignorant of the qualities of these substances, we may commit the grossest mistakes

in the use of them. Instead of an emollient we may apply an escharotic, and instead of a stimulating application, we may perhaps prescribe a sedative.

Without this knowledge, it is impossible to practice our profession with any degree of credit or success; though by some it may possibly be argued that we should have learned these things equally from experience. Nothing therefore can be more necessary than a knowledge of the *Materia Medica*, and consequently of *Veterinary Pharmacy*—which is nothing more than a knowledge of the art of mixing and compounding the several articles of the *Veterinary Materia Medica*, so as to produce a combination capable of effecting what cannot be done by any solid or fluid substance singly.

The last point to be insisted on, as demanding our particular attention, is the study of Anatomy. The body of the *Horse*, the *Cow*, the *Sheep* and the *Dog*, being the subject of our operations, how shall we be able to perform them properly, if we are ignorant of the construction of the machine on which we are to work

A complete and thorough knowledge of *Comparative Anatomy* is therefore absolutely necessary to acquire; and the method to be pursued in order to acquire this knowledge, must be the work of our own hands, in the *Dissecting Rooms* of those Institutions established for that purpose, in different parts of Europe. Mere oral instruction is not sufficient; we may attend the most ingenious and instructive lectures in anatomy of the *human subject*, without being fitted for the exercise of our profession. It is therefore necessary to dissect, to trace, and inspect, the several parts of animals with our own hands and eyes; and this with care and industry.

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